IN THE SPECIFICATION:

Please amend the specification in the following manner:

On the first labeled page 2, please amend the paragraph beginning on line 6 as follows:

The filters H_i^c are modeled by ~~shifted~~ Gaussians shifted in the spatial frequency domain. H_1^c is a special case where the shift is zero. The spread function h_i^c corresponding to H_1^c is the Inverse Fourier Transform of H_1^c, and is thus a Gaussian. ~~H_i^c is not shifted, and thus, h_i^c is also Gaussian, while h_2^c and h_3^c are Gaussians modulated by two sine functions with different periods. A graphical analysis of h_2^c and h_3^c as shown in Figure 2 reveals that h_2^c and h_3^c approximate the derivative operate at different scales.~~

As depicted in the first line of Figure 2 for the case of H_2^c and H_3^c, spatial frequency shifts are a convolution with correspondingly shifted delta functions in the spatial frequency domain. The spread functions h_i^c (for i=2, 3) depicted in line 2 of Figure 2 are the Inverse Fourier Transforms of the corresponding H_i^c. As such, they are multiplications of the Inverse Fourier Transforms of the Gaussian and the corresponding shifted delta functions, namely a multiplication of a Gaussian and a harmonic function. As depicted graphically in line 3 of Figure 2, harmonically modulated Gaussians with different harmonic periods correspond to derivatives at different scales. Thus, the gradient approximation filters H_2^c and H_3^c may be ~~These two gradient approximation operators are~~ denoted by $\nabla_{\sigma 1}^c$ and $\nabla_{\sigma 2}^c$. Note that any band pass filter can be considered as a version of a derivative operator. Furthermore, one possible extension of the 1D derivative to 2D is the gradient. Thus, the minimization of

the Equation (1) functional is similar to minimizing the following functional for each channel separately.

On the second labeled page 2, please amend the paragraph beginning on line 11 as follows:

In an embodiment, the method comprises receiving an input image, converting color representations of an image pixel set to produce a corresponding electrical values set, applying a space varying algorithm to the electrical values set to produce a color-mapped value set, and reconverting the color-mapped value set to an output image. The space varying algorithm ~~minimizes a variational problem represented by~~ solves the variational problem, namely, the problem of finding the image "u" that minimizes the following function:

On the labeled page 6, please amend the paragraph beginning on line 32 as follows:

~~The image *S* 102 may represent the image as sensed by the capture module 103.~~ The gamut mapper 105 applies an algorithm to extract and map the values of the image *S* 102 into the gamut of the image reproduction device 107. In particular, the gamut mapper 105 may apply an algorithm that solves the problem represented by Equation (5), thereby solving the gamut mapping problem and optimizing the output image *S*''108.

On the labeled page 7, please amend the paragraph beginning on line 8 as follows:

In initialization block 123, a Gaussian pyramid of the image *s* is computed. The thus-constructed pyramid contains p resolution layers (from fine (1) to coarse (p) with the current reolution layer (k) set to p. In block 125, T_k iterations of a gradient descent algorithm are

applied to the k^{th} resolution layer, until all resolution layers are checked, block 127. In block 129, the next resolution layer is updated. When all resolution layers are processed, the result is the final output image 130 of the algorithm 120.